California GARDEN

JULY-AUGUST 1993 Volume 84 No. 4 $1.50

HORTICULTURAL CALENDAR

Through Jul. 4	DEL MAR FAIR Flower & Garden Show "Gardens for Children" From Interstate 5 take Via de la Valle west to fairgrounds. Landscaped garden displays, floral arrangements, sales & demonstrations. Sun.-Thur. 10 a.m. to 10 p.m.; Fri. & Sat. 10 a.m.-12 p.m. Fair admission $7 adults; $2 children; $4 seniors. Free parking. Call 755-6940 or 296-1441.
Jul. 2-4	LOS ANGELES STATE AND COUNTY ARBORETUM Cactus & Succulent Show and Sale 301 N. Baldwin Ave., Arcadia. Call 818/821-3222.
Jul. 11	SAN DIEGO DAHLIA SOCIETY Specimen Show Casa del Prado, Majorca Room, Balboa Park. Sunday, 1-4:30 p.m. Free.
Jul. 17-18	ARTISTIC PLANT & LANDSCAPE SOCIETY Casa del Prado, Majorca Room, Balboa Park. Sat. & Sun. 12-5 p.m. Free.
Jul. 17	QUAIL BOTANICAL GARDENS Water Garden Program - Michael Stewart, speaker 230 Quail Gardens Dr. Encinitas. The Water Garden:Backyard Oasis. 11 a.m. $1 Parking.
Jul. 24-25	SAN DIEGO COUNTY ORCHID SOCIETY 7th Annual Summer Show Casa del Prado, Majorca Room, Balboa Park. Sat. 12-4:30 p.m.; Sun. 10-4:30 p.m. Free.
Jul. 31-Aug. 1	SOUTH COAST BOTANIC GARDENS 25th Annual Bromeliad Show & Sale 26300 Crenshaw Blvd. Palos Verdes Peninsula. Sat. 12-4:30 p.m.; Sun. 1-9 p.m. Admission.
Aug. 7-8	SAN DIEGO COUNTY DALHIA SOCIETY Show Casa del Prado, Majorca Room, Balboa Park. Sat. 2-5 p.m.; Sun. 10-4:30 p.m. Free.
Aug. 20-Sep. 6	CALIFORNIA STATE FAIR 140th Floriculture Exhibit & Competition 1600 Exposition Blvd., Sacramento. Daily 10-10 p.m. $6 Admission, $3 Parking. 916/263-3000.
Aug. 21-22	SAN DIEGO FERN SOCIETY 15th Annual Show Casa del Prado, Majorca Room, Balboa Park. Sat. 1-5 p.m.; Sun. 10-5 p.m. Free.
Aug. 21-Sep. 6	JULIAN WEED SHOW Town Hall, Main & Washington, Julian. Daily 10-4 p.m. Free. Call 765-1857
Aug. 28-29	SAN DIEGO TURTLE & TORTOISE SOCIETY 19th Annual Show Casa del Prado, Majorca Room, Balboa Park. Sat. & Sun. 10-5 p.m. Free.
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Deadline for submission to HORTICULTURAL CALENDAR for Sept./Oct. issue is July 15.

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Gleanings . . .

EDITOR'S COMMENTS . . .
This is our birthday issue. The first *California Garden* was published in July 1909 - 84 years ago. The magazine was started by San Diego Floral Association because San Diego residents were finding it so difficult growing in this area. Our writers, editors, and keyests still volunteer their time to help residents grow plants that make the ambience wonderful.

San Diego's unique combination of climate, soil, and water is still causing problems. Read "Microclimates of San Diego" on page 101.

WATER SAVING . . .
Water is being featured in this issue. Surprisingly, a water garden uses less water than a lawn. Did you know that a pond uses only as much water as a drought tolerant plant? After reading this issue, you may be inspired to try a water garden. You will understand the gardens you see.

MAIL-ORDER CATALOGS . . .
Some mail-order catalogs from water garden supply companies give a great deal of information on installing and maintaining a pond. A recent article stated that introductions of new hybrid water lilies have gone from an average of two in previous years to about seventy currently.

One catalog suggested how mermaid's hair, or blanket weed, alga can be removed from a pond. Cut a piece of PVC pipe long enough to reach all points of a pool, make three or four slits in one end, then entwine the long strands of alga in these teeth and remove from pond.

MISSING GOLDFISH . . .
Many of our members have called to say that their pond goldfish are missing. Many are reporting a lack of garden snails, too. Roof rats will eat the snails. Opossums will eat snails and fish. Herons will eat the fish and not the snails. The neighborhood cats are sport-fishers. They will catch the fish and lay them next to the pond. They are usually too well-fed to eat the fish.

We are getting into mosquito season, so fish must be kept in the pond to eat the larvae. It takes some time for your fish-hunter to give up. If you put some attractive fish in the pond, they will not last long unless the pond is covered with a heavy wire netting. Suggest you use mosquito fish or the very tiny feeder fish which are available at pet stores.

LOQUATS . . .
We had many calls about the loquat article in our April-May issue. There were many requests for a recipe for loquat jelly. We inquired around and got the following instructions.

Wash the fruit and cut in half. You do not have to remove the seeds or the skin. (10 pounds will give about 2 quarts of finished juice.) Place the fruit in a pan with a small amount of water, and gently boil for 20 to 30 minutes. Cool a bit and place the fruit in a juice bag (several layers of cheesecloth), and gently squeeze out the juice. If you squeeze too hard the juice will turn dark. (Wear gloves, your hands will turn dark.) Our 'experts' now said to mix the juice with an equal part of sugar (no more than 4 cups at a time) and boil down until thickened. Several said they purchased commercial pectin and followed the recipe on the enclosed folder - still using a 1 to 1 ratio of loquat juice to sugar.

For loquat jam, wash 1# of fruit, scald (dip in hot water), peel, and remove seeds. Chop with coarse blade in food chopper, add 1 ½ cups sugar and 1 cup water. Boil until thickened - film on surface. Makes about a pint of jam.

Several of our members said that they made good loquat chutney. All used a standard recipe, but substituted loquats for the other fruit.

This is a bumper-crop year for loquats. Might be because of all the rain.

PLANT NOW. . .
Water authorities state that because of the rains there should be no water shortages this year.

Drought tolerant and low water use plants need more water until their root systems are established. If you plant now your garden will be lush and beautiful if we have another drought. (And history predicts that we will.)

WATERCRESS . . .
Watercress adds a hint of a pungent peppery flavor to the taste of salads. It needs a moist location; on the banks of a flowing stream is traditional. In this area it can be grown successfully in pots of soil placed in a tub of water. The water should be changed weekly; run water in with a hose. It does require some shade in the inland areas. The flavor of freshly grown watercress must be experienced to be appreciated.

THE MICROCLIMATES OF SAN DIEGO

by ROBERT HORWITZ

WHEN YOU LISTEN to the weather forecast, you really hear three or four different forecasts for San Diego County. Forecasts, whether done on television with all the maps and satellite pictures, or on the usual 10 second radio reporting of weather, or on the tape when you dial 289-1212 for the National Weather Service forecast for our area, will need some of your interpretation. I have lived in San Diego for over 45 years and, over this time, have learned almost instinctively what the weather might be during our seasons. (Yes, we have four.) I have learned how the weather will affect what you plant and how and when you plant. In other words, what you want to plant in Poway does not necessarily coincide with what you want to plant in La Jolla. Planting time is based on location, weather patterns, climate and altitude.

The San Diego climate can be divided into four general and overlapping zones. Starting from the seashore is the coastal zone. Then comes what may be termed the real San Diego climate that goes inland to the intermediate zone. Beyond that comes the pre-mountain/desert area. These weather zones have a great impact on what kind of gardening you do.

The San Diego zone, as I call it, is the one featured in all the travel brochures. Growing conditions are exemplified by the magnificent range of horticulture found in Balboa Park. In this zone there is much more sun (less humid) and it is a few degrees warmer than the costal zone. At night it can get a few degrees cooler.

Further inland in the intermediate area the hills, the additional height, and the down-slopes of the valleys where cold air accumulates is a factor in the climate difference. The temperature range here is ten degrees or more higher or lower than the coastal sections, and is much drier.

In the pre-desert zone, which is farther inland, there are many days over 90° or even 100° in the summer, and conversely, in winter many days are below freezing.

The delineating of zones is not a sharp boundary as it is tempered by valleys, hills, altitude, and nearness to bodies of water. For gardeners in San Diego County, the range of plants that you can enjoy is enormous. Not only can you enjoy your garden, but a short drive to other areas will provide additional horticultural experiences. □

ROBERT HORWITZ is a retired aerospace engineer with a brown thumb and extensive experience in growing in San Diego.

by MORT BRIGADIER

YOUR ASSIGNMENT, if you wish to accept it, "write an article for CALIFORNIA GARDEN on the microclimates of San Diego County."

The problem is that San Diego's climate is influenced by an arid desert, with its Santa Ana winds, and a coastline that changes from dry to foggy to damp, often on the same day. The combination of ocean air currents and desert winds, over a broken and folded terrain, makes for a confusion of temperatures.

With our uneven terrain, countless hills, valleys and gorges, cold air and warm air may exist and hold hands in the same neighborhood in the same day. The result is a mixture of temperatures, and other climatic conditions, that make mapping the county into identifiable microclimates a rather formidable task, a task that no one person, group or agency has yet to undertake.

We turn to Sunset publications and readily acknowledge that Sunset's zones for San Diego county (zones 18 through 24) barely scratch the surface of the many, some say hundreds, of microclimates we know exist in the county.

Although there is nothing specific on microclimates, a great amount of information is found in *The Climates of San Diego*, a publication available from the local University of California Cooperative Extension office. There are charts and code letters to locate areas on the accompanying maps - over three hundred plant sub-climates have been identified and listed in this rather formidable document. It is a bargain at $3.00 when available in stock locally.

What do we know about microclimates? We know about the avocado that thrives near the top of the hill but freezes near the bottom; or the apple tree that produces great apples at lower elevations but flowers and then fails to fruit at higher, slightly warmer, elevations.

We know that microclimates exist and that each is known to someone who knows (by trial and error) what can be grown in their back yard or neighborhood.

I failed my assignment! The information is out there in retrievable form. It exists in the knowledge and experience of the members of the Floral Association. All we need to do is to collect it, assemble it, and record it, for example on Thomas Bros. map sheets.

Is anyone interested in a project? The mission is not impossible! □

MORT BRIGADIER is an U.C.C.E. volunteer with extensive experience in growing plants in San Diego County.

LEARNING FROM A POND

by MICHAEL B. STEWART

IT WAS ANOTHER SPRING in northern Illinois in my eleventh year. Chill was still in the air but the warmth of the sun felt good. The smells were even better . . . spring's breath in the breeze. Sounds drifted across the still-too-wet-to-be-plowed cornfield. The call of the red-winged blackbirds and the sound of a distant chorus of swamp tree frogs (western chorus frogs) became clear.

I came to a cow pasture, slithered under the barbed wire fence, and clambered up a small hill. At the crest, the chorus was so loud that it seemed quite close, yet I knew that it came from the water filled depression at the bottom of the hill more than a hundred feet away. I approached with the stealth of a stalking cat. Even so, the chorus stopped abruptly.

The shallows felt pleasantly warm to my bare feet. The mud at the bottom was icy cold in contrast. The water was teeming with life - tiny reddish colored Daphnia (water fleas) bounced about in huge numbers, fairy shrimp zoomed about, water beetle larvae, aptly named water tigers, bearing relatively huge, gaping mandibles, darted here and there investigating every movement.

The chorus of frogs began again, timidly at first, but reminding me of my original purpose. Try as I would none of the little frogs seemed willing to reveal their locations.

Suddenly, I was treated with much more than I had expected. This vernal pool had been selected by the tiger salamanders as a place to lay their gelatinous eggs under water during their communal, nocturnal courtship dance. There, suspended in the water in perfect ballast, was a salamander larva, very different from the yellow-spotted adults. It had reddish, feathery external gills that enhanced an already ferocious looking head, small, weak looking legs and a powerful flattened tail with a dorsal "fin" extending part way up the body. The beady little eyes mesmerized me.

The now deafening chorus of frogs continued. I made some more futile attempts at catching frogs and another salamander larva. The sun was setting and I suddenly realized how chilled I was. As I sloshed up the muddy shoreline, the chorus of frogs became even more deafening as though they were convinced that I was finally departing.

I sat at the top of the hill for a time while the colors of the sky changed and darkened. The chorus, quite loud, filled my head so that my thoughts melted away . . . Again, the shiver of my body reminded me of the time and place.

Now, at age 41 here in Southern California I can still find similar experiences in my or some of my client's ponds. This is what water gardening is really about. The lush and beautiful flowering plants serve to provide the atmosphere as well as a sensual lure to the pond. They set and enhance the mood but it is the activity of the life in and about the pond that elevates the state of mind and spirit.

From any perspective the pond becomes a significant experience. The child is both fascinated and intrigued by the darting red dragonfly and the frog as it leaps to capture and eat it. The backyard naturalist finds perhaps the most informative "class" in ecology anywhere. The gardener and lover of beautiful flowers discover plants that respond magnificently to so little care and attention. The bird watcher finds that searching for birds is no longer as paramount as just watching for their arrival. The fish enthusiast finds reward in healthy, responsive fish - their constant activities add beauty and grace whether they are large exotic koi or simple, colorful minnows.

No other parts of the garden hold such a concentration of life. There is tranquility and harmony in the balance of nature.

It may seem that recreating the fountain of life in our home landscapes is an impossible task. In reality, we only need to provide for some basics such as water containment, alignment to sunlight, and a discrete introduction of plants and animal life. Water movement can be an asset both ecologically and aesthetically. We provide a gently guiding hand - coaxing nature a little here and there. As a pond begins to flourish we let nature guide US - to show us where and how to strengthen the complex processes that are a part of the natural pond.

Yes, water gardening with nature takes a little time . . . that is the beauty of it! If we take the time, we will grow WITH the pond. As the pond matures, our understanding matures. Our water gardening success comes not by the book or by anyone else; but by learning from the pond. □

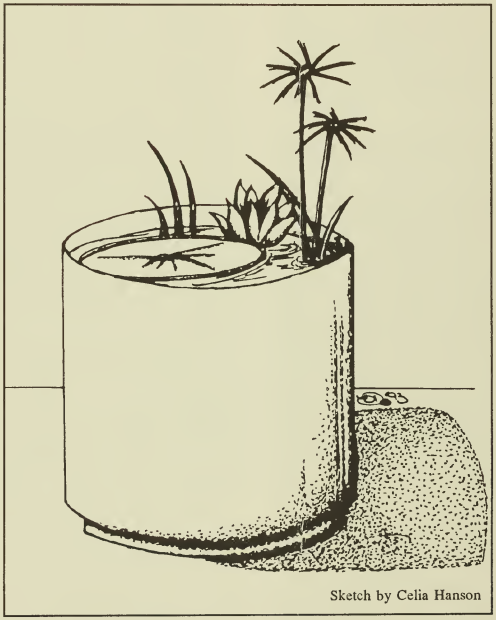
MICHAEL STEWART, of Tranquil Water Lily, provides plants, planting, design, maintenance and consulting services for pond owners. He is active with Quail Botanical Gardens.

CONTAINER WATER GARDEN

by KATHY WALSH

ONCE UPON A TIME but not that long ago I read a magazine article. The article was about how "you" could make a container water garden, and how easy and simple it was. Part of it was true, but like all fairy tales, it was not so simple and easy. Here is the real story.

To start a container water garden, select a sturdy ceramic or plastic container. (An oak half-barrel can be made waterproof, but this is a chore. I discovered that the barrels can buckle and chemicals can leak into the water.) The container must be at least 18" high and 18" across. Color - your choice. Now pick the spot for your garden. Once planted and full of water it will be impossible to move. Remember that the plants like sun, filtered in the summer, for at least six hours a day.



Sketch by Celia Hanson

A trip to your local nursery is the next step. Most nurseries, these days, have a water section. It is best if you stick with the hardy plants to start: papyrus (any type), water lilies, water hyacinths, spuria iris. These are all readily available. Don't get too much. One or two plants are all you need - it is easier to add plants than to remove them. (I started with a papyrus and a water lily. After a year I added a water hyacinth and an iris.)

Next place some dirt on the container bottom. The plants can stay in their original containers. Actually, many plants, such as water lilies, like crowded roots. If your plant is small, place it on an empty, inverted pot. Only the dirt and the roots need to be immersed. A thin layer of sand can be added to lighten the bottom. (This is purely cosmetic.) Then, slowly add the water.

But, more goes into a container water garden than plants and water. (That is the fairy tale part.) To have a true water garden that lasts you must have a balanced ecosystem.

A balanced ecosystem is not that hard to do, but it may take a couple of attempts before success is obtained. Water invites bugs like mosquitos. So fish to eat the mosquito larvae are needed. A couple of baby gold fish will be fine. (Don't jump in and buy some fancy koi that need special care.) Even easier, get some mosquito fish - they love to eat the larvae. Fish need oxygen. So, when at the pet store get some oxygenating grass. Just a small bunch is needed. It will grow and thrive in your pool (sometimes too much). There are several types. Pick the one you think is pretty.

Algae, that green stuff, is the next thing to threaten your ecosystem. It can be controlled with light and some (actually three) algae eating snails. Try to get two females and one male, but who can tell? These guys live under the leaves and below the water line. You hardly ever see them, but they do a great job.

So, you have planted your plants, and added the water. If you used city water, you waited a few days before you added the grass and the fish and the snails. Now you wait. Hopefully you have set-up the perfect ecosystem. If perfection is not yours the first time, try again. (I thought something was wrong on my first set-up because the fish disappeared. It was the neighbor's cat.) You will come to love your low maintenance garden. You just add a bit of water if the level goes down. Nothing will prepare you for the day your first water lily blooms. You will find great pleasure in watching the fish and the plants. But beware. It is so much fun you may end-up like me digging out the grass to build a water garden pond and a bog. □

KATHY WALSH is an RN who is also a fabulous gardener, flower arranger, basket maker, etc.

THE ECOLOGY OF A WATER GARDEN

by WALTER PAGELS

GARDEN PONDS COME in many forms and serve various functions. In their simplest forms, they serve as reflecting pools, or as an integrated part of the building architecture. The water is kept sterile with chemicals, and the pond has no ecosystem.

A more common usage is as a formal display receptacle for certain exotic plants or animals. Many ponds are constructed to exhibit the Japanese colored carps (koi) that have a range of colors and patterns that rival most flowers. These ponds have a very limited ecosystem.

Finally, a garden pond is used to represent a natural pond or miniature lake to complete a landscape design. Here the ecosystem is most complex because the environment affords many niches for a variety of organisms.

An example of the simplest (and therefore the most unstable) garden pond, is the bare concrete water basin containing only fish. If untreated, it does not take long for the water to have an algae bloom, a condition where the water turns dark green, that obscures the fish. Changing the water is only a temporary solution, because the bloom will only return sooner. With heroic efforts such a pond can be maintained, clean and sparkling, by a combination of contrivances such as: (1) overhead shade to reduce the algae growth rate and keep the water from overheating; (2) chemicals to kill the algae without adversely affecting the fish; (3) a pump and filter system to strain-out the dirt, dead algae, and fish debris; (4) medication to prevent a plague from spreading among the crowded fish population; (5) aeration to add oxygen; (6) activated charcoal to purify the water of metabolic wastes; (7) a pool vacuum to pick-up the heavier debris from the bottom; and (8) food pellets to supplement the minimum amount of natural food available. As long as the pond keeper is regular in cleaning filters and keeps alert to changing requirements, the pond can be maintained successfully - but not naturally.

At the other end of the spectrum is the natural pond that is self-sufficient. This is rarely achieved with the garden pond because of its small size and the concentration of plants and animals desired by the homeowner. The study of a natural pond is helpful, however, to gain a perspective on how to achieve a semblance of an ecological balance.

Most natural ponds have a gradual increase in depth from the shoreline. Various plants have become specialized in filling these successive depths. In the shallows are the emergent plants, such as cattails (*Typha latifolia)*, pickerel weeds (*Pontederia cordata*), and arrowheads (*Sagittaria latifolia*). As the water depth increases, we find the floating-leaved plants such as: water lilies (Nymphaea species), lotus (Nelumbium species), and spatterdock (Nuphar species). Finally, as the water depth exceeds five feet, we have the completely submerged plants such as: coontail (*Ceratophyllum demersum*), water celery (*Vallisnera americana*), and pond weed (Potamogeton species). Dispersed throughout the water are free-swimming algae. Floating between the lily pads are the duck weeds (Lemna species), water velvet (Salvinia species), and fairy moss (*Azolla caroliniana*).

When the pond is self-sufficient, all the organisms interrelate to stabilize the environment. The floating-leaved plants shade the water to keep the temperature moderate; clams and water fleas strain the water for algae; underwater plants absorb nitrogenous wastes and provide hiding places for the water fleas, shrimp and prawns; small fish search among the plants for the water fleas as food; larger fish strain the sand for small clams and water insects; snails crawl up the lily stems to eat the decaying older leaves; and so it goes - on and on and on. Stability is maintained by numerous checks and balances. The loss of any one plant or animal has only a slight effect on the whole. Even if an entire species disappears, there is enough overlap for the void to be filled by another species.

Many creatures visit the garden pond uninvited and fill ecological niches. The majority are insects since they enjoy the power of flight. The most conspicuous are the dragon and damsel flies. They are always on the search for open water in which to lay their eggs. A common insect, but one that is rarely noticed, is the midge (a tiny harmless fly) whose young make tubular homes in the water and eat the algae growing on the pond plants. If the pond is near a wild canyon, it could be visited by tree frogs that fill the evenings with their loud croaking. Birds also come to drink and bathe in the shallows and incidentally transport microscopic animals and plants on their feet. An occasional snake will wander in and dine on a frog or two, which hardly will be missed. Unfortunately, the snake is partial to small fish, which may be carrying this ecology-thing a bit too far if the fish happens to be a choice one.

Many unintentional visitors come by way of 'introduced' plants. Snail eggs, algae, and even fish eggs often are attached to stems and leaves of water lilies from the nursery. It also is possible for the pond owner to inoculate his pond with desirable inhabitants by visiting an established pond or lake and dipping a fine meshed net among the shallows. The big danger in this is that fish enemies may be introduced. A field book on freshwater life will be helpful. However, no amount of inoculation

will be satisfactory if the conditions do not suit the new arrivals. Primary requirements for the smaller animals are sanctuaries from the predatory fish. These may be roots of the floating water hyacinth (*Eichhornia crassipes)* or a thick growth of underwater plants. Mosquito larvae that need open water surfaces to breathe are still picked off easily by the smaller fish.

The gardener can mold the environment of the pond to achieve the desired results. A certain amount of experimentation is necessary. What works well in one pond will not necessarily work as well in another - even in the same yard - because of subtle differences in water depths, amount of shade, and present inhabitants that may already have adequately filled a particular ecological niche.

The homeowner still has to fill some niches to keep the pond from following its natural tendency to turn into a marsh. In nature the excess growth of water lilies and lotus is kept in check by the moose, muskrats, moths, and beetles; the arrowheads are cropped by ducks; cattails are controlled by crayfish; and small fish are eaten by large fish, and large fish are eaten by otters and eagles. The gardener could hardly have access to one-tenth of a moose to help crop his water lilies occasionally. The workings of the beetles, moths, ducks, and lice are not particularly pleasing. Therefore, the gardener has to fill these ecological deficiencies himself.

A fine but stiff spray from the garden hose helps to dislodge aphids from the leaves. If the fishes have been too well fed with store-bought food, they may ignore the floating aphis. A restrained hand on feeding will often cure this problem.

A transition of a garden pond into a marsh is often accelerated because of the vigorous plant growth and the artificial feeding of the animal inhabitants. If the gardener does not restrict the plantings or intervene to remove the excess plants and accumulated debris, the open water would be completely choked with plants in less than one year. It is possible, by judicious choice of plants and animals, to keep a pond virtually unchanging and maintenance free for years. However, this is often not a desirable solution because the range of plants is restricted. Some of the most colorful and moderately priced water plants are also the most vigorous growers.

The freshwater algae are a scourge to the pond owner, whether as isolated cells (green water) or arranged in strings (blanket weed). There are hundred of species, most arriving at the pond as spores, although many are transplanted by flying aquatic insects or on the feet of birds. The free swimming kinds are nearly impossible to see individually, but collectively, they cause a greenish colored water. If the water is especially rich in nutrients, they can obscure from view any object more than a few inches below the surface. Gardeners seeking an easy solution, may try the various brands of proprietary algicides. These are only temporary solutions and, because of the varying resistance of the different species to algae, may clear up one pond and have a negligible effect on the next. An ecologically balanced pond does not permit algae to gain an upper hand.

After the annual cleaning, a garden pond has to begin over in its maturing process. If none of the previous minor inhabitants survived the cleaning, the new pond ecosystem may be radically different from the previous year. When new water is added, a few spores of green alga may soon cause a green soupy condition if no water fleas are present to control it. This in turn shades the sun from the underwater leafy plants, which then die, adding their nutrients to the water and further accentuating the problem. With a few warm days, the green water shades itself, and at night may remove more oxygen from the water than it produces. This results in a fish kill that is not discovered until the next morning. With no understanding of what happened, the frustrated pond owner may just cover up the pond and be done with it. □

WALTER PAGELS is an electronic engineer whose hobby is pond gardening. He is a nationally recognized authority on ponds. He is a co-founder and first president of the International Water Lily Society. Sketch by Celia Hanson.

WATER LILIES IN BALBOA PARK

by PETER DARGUSCH

THERE ARE MANY VARIETIES of water lilies, and several can be found growing in the lily ponds located in front of the Botanical Building in Balboa Park. Most of these water lilies belong to the genus Nymphaea. There is one exception, the lotus, that belongs to the genus Nelumbo.

The Nymphaea growing in the Balboa Park ponds are from two basic subgroups: the hardy lilies that are native to temperate climates including North America, Europe, and temperate Asia, and tropical lilies that are native to tropical climates, such as Africa and Asia. There are about thirty-five species, but cultivated varieties are largely hybrids. Some cannot be assigned botanically. Both the hardy and tropical types are perennial, and San Diego's climate is mild enough for tropicals to overwinter in the ponds.

The water lilies are grown just below the surface of the pond (approximately one-half to one foot) in wooden boxes filled with topsoil mixed with clay. The surface is covered with sand to hold the soil, rhizomes and root areas in place. Redwood boxes are not used because of the possibility of contaminating the water.

Each year in the early spring, the pond is drained to be cleaned. The planter boxes are covered with wet burlap to prevent them from drying out or sun burning. While the pond is drained, fresh soil is added to the boxes and the rhizomes or rootstock is divided and replanted. Any deteriorating boxes are replaced. This is when fertilizer is added in the form of balanced slow-release fertilizer tablets that are placed into the soil around the rhizome and root areas. The ponds are partially drained in late summer for a second application of fertilizer tablets. Water lilies are heavy feeders, and home water gardeners may want to fertilize more often than twice in a growing season. Many fish and turtles coexist in the pond with the water lilies. They must be moved to an undrained pond during maintenance.

The water lilies begin growing in late winter to early spring in San Diego. Round green or green and purple leaves emerge and float on the water, shortly followed by colorful blooms. They need a long period of sun for abundant blooms, and in Balboa Park they are grown in full sun. The hardy lilies begin blooming in March, the tropicals bloom later. The most prevalent species in the pond is the white flowering *Nymphaea odorata*, a fragrant hardy lily that is native to the eastern United States. Most of these can be found growing in the northern end of the large pond. Other plants throughout the ponds bloom in shades of yellow, pink and red. The tropicals generally have larger lily pads and flowers. One eye catching

Nymphaea caerulea

tropical variety, *Nymphaea caerulea*, has light blue flowers rising above the water. (See picture.) It can be found growing in the smaller pond. This species is native to Africa. It is called "Egyptian Lotus" - the "lotus" found in Egyptian art. Both the hardy and tropical varieties in these ponds are day bloomers. They continue to bloom for many months, but go dormant in the winter when cooler temperatures prevail. Late in the growing season, the water lilies are sometimes attacked by aphids that are easily controlled by periodically hosing them off with water.

Nelumbo, or lotus, is also a tropical water lily, but it is in a class by itself. There are two species of Nelumbo, the species growing in the pond is *N. nucifera*. (See picture.) Native to Asia, the flowers are sacred to Buddhists - thus the name " Sacred Lotus." It is also called "East Indian Lotus" and "Sacred Bean." Lotus is

Nelumbo nucifera

grown in the Orient for the edible rhizomes and seeds. A cultivar name of this species with no botanical standing is 'Alba Striata'. The Lotus can be found growing at the south end of the large pond. The large round leaves grow on and above the water and are much larger than the Nymphaea. The striking white and pink flowers that grow on stems above the water bloom during the day. These plants also begin growing in early spring, in May or June, but begin blooming much later than Nymphaea. During the growth phase, these plants send out runners with small plants attached to them, from which new plants can be started. They also can be propagated by dividing and replanting the oblong tubers or from seed. Like Nymphaea, they go dormant in the winter in San Diego. And, like Nymphaea, they are a very beautiful and easy to care for plant. □

PETER DARGUSCH is the groundsman who cares for the Balboa Park lily ponds.

THE BALBOA PARK BOG

by JOHN STELLINI

A BOG IS sometimes described as a permanently wet land with poor drainage. Bog plants are described as plants that live in wet places, not deep water. In other words, bog plants like to have their "feet" wet. Most of them are native plants and usually are easy to grow if one understands their natural habitat and tries to duplicate it.

One of the prettiest gardens in Balboa Park is the bog garden at the back end of the upper lily pond - directly in front of the lath house (Botanical Building). The viewer cannot see it, but the bottom of the pool gradually slopes from the back of the pool to the front. The permanent cement bottom is flat. The slope is made of compacted soil with a heavy clay content that has had manure added. The surface is covered with a layer of sand. This pond is not drained yearly, only when necessary. Needed feeding is done by pressing food tablets into the soil. Some plants are placed in the soil (papyrus), other plants are in pots (iris), and others float (water hyacinth).

Some of the prettiest plants in the Balboa Park bog are the Louisiana swamp irises that are hybrids of *Iridaceae fulva, I. brevicalus*, and *I. giganticaerulea*. They are natives of the Mississippi River delta. They grow to a height of 1′ to 5′ and have beautiful flowers in all shades of yellow, pink, purple, and blue. They bloom for several months starting in April. After flowering, interesting pods, 2" to 3" long, are formed. These split to expose green-pea-like seeds that ripen to an orange-gold.

Swamp iris do their best if grown in full sun. The rhizomes should be kept in water or in wet mud until planted in clay bulb or azalea pots. (The pot top is wider than the height and has a thick top rim). A satisfactory soil mix is: 2 parts Canadian peat, 1 part clay topsoil, a small amount of blood meal and any acid food, and a small amount of activated charcoal. Place the rhizome horizontally in the pot just below the bottom of the rim edging. The pot should be top dressed with one inch of sand. Next, the pot should be placed carefully into the pond. The top of the pot must be below the water surface - no more than three inches. The water can be lower after the plant has bloomed.

Other swamp iris with the same cultural requirements are *I. fulva*, with copper flowers, *I. psuedacorua* (yellow flag), and *I. foetidissima* (Gladwin) with blue and yellow flowers.

Louisiana swamp iris can be grown in dry beds. San Diego soil and water are alkaline. When grown in dry soil, the soil must be constantly amended with a water soluble acid food to maintain the needed low Ph (acid condition). Mulching is required to protect the rhizomes from over heating and sun burn. Weeds must not be allowed to grow. Plants are very susceptible to damaging by leaf miners, slugs, snails, and cutworms.

It is much easier to grow swamp iris in water. Dry grown plants have very strict cultural requirements for water, soil acidity, mulching, weeding, and pest control. In water culture, these things don't seem to be a problem. Once the iris is planted the work is basically done. The irises grow rapidly and even the usual pests are not a problem. □

JOHN STELLINI is the groundsman that maintains the bog garden in Balboa Park.

WATER PLANT ARRANGEMENT

by SUSAN FOX

JAPANESE STYLE ARRANGEMENT, or *ikebana*, specializes in capturing the relationships between natural materials. In nature, the atmosphere created by flowers floating on the water's surface has the feeling of an *ikebana* in water. During the summer, water arrangements are a specialty. Waterlilies and other pond materials are arranged in a container for display inside the home. It represents, in a bowl, a view of aquatic materials that grow by or in a pond, a marsh or at the water's edge. It suggests coolness on a warm summer day. This idea is unique to a Westerner's point of view, but is one that we can use, especially if we have water plants in our garden or have access to them. How delightful it is to adapt plant material that we enjoy in its natural habitat to giving pleasure at a much closer level indoors.

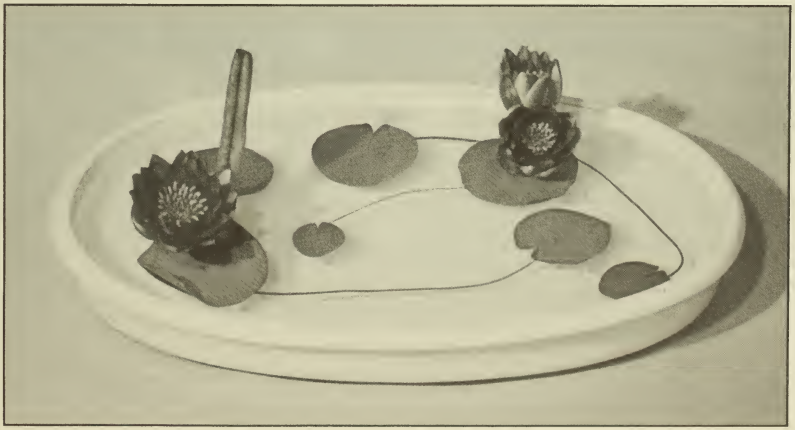
The first step in adapting this idea to our homes is to observe how the water plant grows in nature. Water plants include waterlily, iris, water hyacinth, bullrush, calla lily, water plantain, reed, giant reed, pondweed, lotus and many others. Any plant that grows in water is suitable for this type of arrangement. The idea is to give the viewer your point of view about the material. Is it the color and shape of the waterlilies that you like? Then float a waterlily or two in various stages of growth in a large, flat basin. Make the size of the flower relate comfortably to the size of the bowl. Use three leaves along with the flower to duplicate its natural appearance.

Perhaps it is the water's edge that fascinates you. Use a flat round or rectangular dish and place the kind of material you have observed at the water's edge at the edge of the container. Leave about two-thirds of the water surface empty to show that it is a water arrangement. Examples of materials to use for this kind of arrangement are iris, bulrush, reed, and fern. A needle-holder will hold them in position. Float some water clover or flower petals on the surface of the water.

If you are lucky enough to be able to go into your garden to gather the material, take a bucket of water with you. Cut the plant material and immediately put the stem end in the bucket, cutting the stem under water again. When you are finished, submerge the material in water for ten to fifteen minutes. This allows the plant to become turgid. If you agitate the material gently in the water, the dirt on the leaves will fall away. It is a good idea to add a floral food to this water as well as to the water that is in the arranging basin. Even after arranging, water plant material requires misting to keep it in peak conditions.

These methods are departures from our usual way of enjoying flowers in the summer. This type of interpretation of nature in *ikebana* is called "Landscape Arrangement." You can show your sensitivity to the beauty of nature in this fun and different way. Your family and visitors will have a new view of their environment, thanks to you. ▫

SUSAN FOX does flower arranging in both western and oriental styles. She has studied Ohara Ikebana for over 11 years.



COOLING WITH WATER

by BARBARA S. JONES

THE PERSIANS TAUGHT the Moors, who taught the Spanish. When the Spanish settled California in the 1700 and 1800's they incorporated these water cooling features into their homes.

Many San Diegans are discovering that their patios or decks are very hot in the summer months. There are things that can be done to improve the conditions.

Water, especially if it is moving, is cooling. In Spain one sees beautiful small enclosed spaces that are comfortable and attractive outdoor living rooms. In every one there is water in some form. There are many examples in San Diego that one could adapt to their home.

In the Alcazar Garden in Balboa Park there are two small home-size pools that are exact copies of pools found in the Alcazar Gardens in Seville. There are two attractive small pools on the terrace of Cafe del Rey Moro in the House of Hospitality. One is on the upper level and the other is under the stairway to the lower terrace. Both are exact copies of the pools in the famous garden of the Moorish king's palace in Ronda, Spain.

One of the Park's most beautiful and cooling pools has been vandalized out of use. It is directly across the street from the lily pond on the canyon facing wall. It is a classic water rug. If you look closely you will see that each level of the tile on the back wall protrudes slightly out from that above it. Originally a thin film of water was introduced at the top. It shimmered down the iridescent tiles into the small pool at the bottom. A pump recycled the water.

If you visit Bazaar del Mundo in Old Town you can experience how the classic Spanish tiered fountain cools the area around it. Water is recycled in this type of fountain. Water barely drips over each level and any breeze will pick-up the moisture and cool the air.

Anyone can introduce running water into a home patio or deck. Very attractive waterfalls, complete with water collecting basin and recycling pump, are commercially available at nurseries and many other stores. Fountains which allow water to drip from basin to basin are found in classic Spanish and other very innovative designs. Small garden pools, complete with everything but plants, water and fish are made in several sizes. There are even small fountains that can be attached to a wall. These look like niches.

Many of these water features are surprisingly attractive. With the addition of plants, it is difficult to tell that the material is plastic based.

Persian Water Rug

Many complain that the sun beats into their enclosed outdoor garden in the summer months and "cooks" their plants and "boils" their fish. Shade cloth is the solution. If there is no way to build a support for the cloth, investigate the new garden umbrellas made of shade cloth. These can be used during the difficult periods and easily folded down when not needed.

Most San Diegans would prefer to spend their time in an outdoor garden room. With a little effort and the equipment now available, even the most difficult space can be turned into *paradise*. (That is the ancient Persian word for garden.) □

John Goodpasture
Horticulturist
Landscape Planning
Maintenance • Trees
(619) 542-0469

ROMANTIC EFFECT IN DROUGHT RESISTANT GARDEN

by BETTY NEWTON

THE DEL MAR POST OFFICE GARDEN, designed by Linda Chisari, is an example of a new California Romantic style. Facing south on 15th - a half block west of the main street, Del Mar Avenue - the post office garden is accessible to all and enriches the town.

This billowing, colorful, Romantic country style undoubtedly evolved from efforts to save water during the drought of '86 - '92. I've seen a similar feeling developing elsewhere as we incorporate more drought resistant plants. Knowing there will always be another drought in Southern California, we began to learn how to make attractive gardens using less water.

In Del Mar, Chisari makes use of the strong trunks of mature pine trees at curbside and an old *Yucca gloriosa*. She, of course, works with the strong horizontal line of the one-story post office itself. The only tall vertical plant she added was a lovely gray weeping acacia, *A. pendulata*. It is placed next to the building in an east corner. That weeping tree marks off the garden and gives it depth.

What grows here? There is a Chisari favorite, *Pittosporum crassifolium* 'Nana'. This dense, gray-green, mounding relative of mock orange is used here to set-up a pattern and anchor parts of the design. And you see yellow mexican poppies *(Hunnemannia fumariaefolia)*, red valerian (*Centranthus ruber*), tufts of white and green rattlesnake grass, massive drifts of yellow-flowering bulbine, purple-velvet spired mexican bush sage (*Salvia leucantha)*, and a gray-leaved magenta-flowered species geranium. Ivy geraniums grow from the front planter box and hidden in the corner is an interesting species, *(Pelargonium cordifolium*), that has heart shaped leaves and two inch lilac flowers. The plants spill around rounded cobblestones and the edges of the cement around the flag pole. The large rocks, cobblestones, and concrete are important contrasts and set off the plants. These same plants combined, but overgrown, would lose their impact. The garden mounds and billows with color. There is color throughout the year and it absolutely captures your heart in spring.

This garden has an advantage. It is maintained, kept up, by members of the Del Mar Garden Club. Some live just blocks away.

Another garden, not in the same style, which also uses drought resistant plants lies a block and a half west, south of Powerhouse Park on a shelf above the beach. This was planted by volunteers according to signs. It suffers in the wind and salt spray and from lack of fastidious maintenance. (A thick mulch would help.)

The Del Mar Post Office Garden serves as an example of a soft, people-friendly style that is becoming popular with Southern Californians. □

BETTY NEWTON is a garden writer and teaches classes on gardening at Foothills Education Center. Photograph by author.

THE GENUS TRITONIA

by JIM DUGGAN

I HAVE ALWAYS BEEN taken by bright colors. The riotous activity of annuals or the explosion of blossoms on a favorite shrub draws my attention. A special attraction comes at the height of spring with the flowering of the brightly colored tritonias.

Tritonia is one of the many exiting bulbous plants that come from South Africa. The genus is comprised of 28 species of tunic covered corms. They are deciduous and are mainly winter growing and spring flowering. The leaves can be lance-shaped (tapering toward the tip) or linear (narrow and flat). The flowers are borne on spikes at the end of the stem. There are many very floriferus species.

One such species is *T. deusta* ssp. *deusta*. (See picture.) Small 4" leaves hold up bright orange blossoms marked with 3 deep red blotches. The base of the petals is yellow colored. The large 1½" - 2" flowers reach a height of 10".

Several other species have dwarfed leaves. *T. conferta* has 3" leaves and sports cream colored flowers with tan centers that are held high above the foliage. *T. dubia* has small, narrow 2" leaves and blossoms of pastel orange with prominent veins. The blossoms reach to 6" and it is the first to bloom in late February. An outstanding species is *T. securigera* - orange. It has small, narrow 3" leaves that sport an 8" canopy of brilliant orange flowers with yellow shading. There is an all yellow form, but it blooms less aggressively.

The larger species with flowers that reach 10" - 15" above the foliage are often good garden plants. *T. crocata* (that now includes *T. hyalina*) varies from a brilliant orange to a lovely pastel coral-orange. It often has nearly transparent 'windows' at the base of the petals. The 6" lance-shaped leaves support flowers from 12" - 14" high. This is a prolific species and an excellent cormel (small corms) producer. Another superb species is *T. squalida*. The 12" high flowers are a translucent pink with veining. These two species have been used to produce many excellent hybrids. These are: "Princess Beatrix" with brilliant orange, extra large 2" flowers; "Pink Peach" with light pink flowers blotched with deeper pink; 'White Glory' with superior pure white flowers. I am growing a *T. squalida* selection with blossoms of pastel pink and pale orange. All produce stunning displays of blooms held high (up to 15") above the foliage.

Two other species worth mentioning are *T. crispa* that sports curled edged leaves and flowers of pale yellow to pink, and *T. lineata* with cream flowers with dark pencil-line veins.

This is an exciting genus. Flowers are abundant and brightly colored. Corms can be purchased in late summer and planted in the fall. Tritonias enjoy full sun. The corms should be planted 1½" - 2" deep. Cultivation is not difficult. Water weekly and fertilize with a balanced food once a month during active growth. Let them dry out as they go dormant, and keep dry during the summer dormancy. Aphids and occasional spider mites can be controlled with insecticidal soap.

T. crocata and many hybrids do well in the garden. All are excellent container plants. Do give them a try. □

JIM DUGGAN is a recognized expert on South African bulbs. He cultivates his bulbs in Leucadia. Picture of *Tritonia deusta* by author.

Now is the Time . . .

A CULTURAL CALENDAR OF CARE
Compiled by Penny Bunker

AFRICAN VIOLETS
by Helen LaGamma

NOW IS THE TIME

TO CHECK that plants are not crowded.

TO KEEP violets well groomed.

TO PLACE pans of wet pebbles among plants to increase humidity.

TO USE a fan to circulate the air to prevent mildew.

TO USE cool light tubes if violets are under lights. If using natural lighting, place plants farther away from source.

BEGONIAS
by Margaret Lee

NOW IS THE TIME

TO REPOT plants if needed - step up to next size container.

TO MAKE cuttings when trimming or pruning.

TO GROOM and inspect plants throughout growing season.

TO CHECK for mildew - spray at once for control.

TO CHECK for snails, slugs, and fungus.

TO POT rooted cuttings and leaves.

TO CONTINUE feeding.

TO REMOVE old flowers from tuberous type by snapping off the blossoms not the stems.

TO FEED tuberous plants when flower buds appear. Feed one tablespoon *High-Bloom* and one tablespoon of fish emulsion to one gallon of water.

BONSAI
by Dr. Herbert Markowitz

NOW IS THE TIME

TO WATER, water, water - but not over water. During the hot months it is best to water early in the day. Some bonsai may need two or three waterings on hot, dry days.

TO ROTATE some trees with regard to sun exposure.

TO PROTECT some plants by moving into a shaded area out of direct sun.

TO CHECK for insects and pests - spray with a diluted spray. (Be careful with elm trees that usually do not need spraying.)

TO MIST or spray foliage of certain bonsai in the evening or early morning.

TO WAIT until September or October to transplant bonsai.

TO REMOVE excess blossoms from trees to save their strength for next year. Defoliate some of the deciduous varieties in July - not later.

BROMELIADS
by Mary Siemers

NOW IS THE TIME

TO PROTECT plants from burning during the hot weather by placing them under lath, shadecloth, clear fiberglass, or trees.

TO INCREASE the frequency of water according to the temperature, but do not allow the soil to become soggy.

TO CONTINUE to fertilize once a month during summer - using water soluble, high acid fertilizer. Use one-half of strength recommended on label.

TO REMEMBER to water plants one day before fertilizing.

TO CUT off shoots (pups) to make new plants while weather is warm. Cut when they are 1/3 or 1/2 the size of the mother plant.

TO ALWAYS keep plants clean by cutting spent blooms and dead leaves.

CACTI & SUCCULENTS
by Joseph Betzler

NOW IS THE TIME

TO WATCH plants during hot weather. If they dry out too much they can shrivel and burn in the sun. Protect delicate specimens from the sun with screen.

TO WATER plants carefully. Some like to dry between watering, others can take it wetter. Be careful with the plants that are dormant.

TO FERTILIZE growing plants but do not overfeed. A good rule-of-thumb is 1/2 strength every other watering.

TO WATCH plants for pests - especially snails. Treat immediately but be careful with insecticides.

TO CHECK for plants that need repotting and do so.

TO ENJOY your collection - take a little time to look at your plants.

CAMELLIAS
by E.C.Snooks

NOW IS THE TIME

TO KEEP watering on a regular basis. Roots must be kept damp, but not wet.

TO MULCH with redwood compost or pine straw or any other available material. Keep the roots cool.

TO APPLY iron for good foliage and bloom color.

TO APPLY second of three fertilizations with cottonseed meal or other acidic fertilizer. Never fertilize a dry plant and do water well after applying fertilizer.

TO CHECK for insects and mites - the latter are especially prone to attack during hot, dry periods. Apply Cygon or miticide as needed.

TO PRUNE unwanted new growth before it hardens. The center of the plant must be kept open for air circulation.

TO START disbudding as soon as blooms can be recognized. These buds are round while growth buds are pointed.

DAHLIAS
by Abe Jansen

NOW IS THE TIME

TO KEEP old blossoms cut back to first of leaves from the main stalk to prolong blooming.

TO DISBUD to encourage better blooms.

TO TIE canes to prevent plants breaking - use loop for each cane.

TO CONTINUE regular watering program.

TO SPRAY for insects and mildew; control slugs and snails.

TO FEED with a 5-10-10 fertilizer. Use potash alone to help promote root growth.

TO CUT blossoms in late afternoon or early morning and place immediately in water.

EPIPHYLLUMS
by San Diego Epiphyllum Society

NOW IS THE TIME

TO WATCH moisture - spray or mist is beneficial during hot dry weather. Spray during evening hours or early morning.

TO REPOT plants that have outgrown their containers.

TO TAKE new cuttings.

TO KEEP plants out of full summer sun; they need filtered sunlight and free air movement.

TO REMOVE spent blooms and unwanted apples to conserve the plant's vitality.

TO PLANT new cuttings during the warm weather to allow new growth to become established during the growing season.

TO WATER hybrids during the hot summer months - spray occasionally or mist. Do not allow soil to completely dry out.

TO WATCH for pests. Spray or drench plants with Cygon to control.

TO FERTILIZE for new growth. Use 10-10-15 strength at this time.

FERNS
by Ray Sodomka

NOW IS THE TIME

TO SPRAY for aphids and scale; keep snails, pillbugs, and slugs under control.

TO FERTILIZE plants regularly with a high nitrogen fertilizer. They are in their growing period.

TO WATER and maintain humidity by keeping the surrounding areas damp.

TO TRIM dead fronds.

TO PLANT fern spores.

TO PROTECT from the hot sun.

FUCHSIAS
by San Diego Fuchsia & Shade Plant Society

NOW IS THE TIME

TO SPRAY to control insects. Orthene will control most pests: aphids, leafhoppers, caterpillars, and leaf miners, thrips, whitefly. Plants may be sprayed or drenched with Cygon-2E, malathion, Diazinon - use manufacturers instructions.

TO SNIP off runners for shape and new growth.

TO PRUNE lightly to encourage more fall blooms.

TO KEEP foliage misted. Spray only in the shade or early evening.

TO NOT overwater but keep damp, not wet.

TO FERTILIZE regularly with high phosphorous for buds and bloom.

TO REMOVE spent blooms and seed pods to encourage more and larger blooms.

GERANIUMS (PELARGONIUMS)
by Carol Roller

NOW IS THE TIME

TO WATER thoroughly when plant become somewhat dry. Allow excess water to drain away. Keep foliage as dry as possible.

TO CONTINUE feeding a balanced fertilizer dissolved in water. Use less than full strength, but apply as often as needed to keep plants from developing nutritional deficiencies. Long term pellets may be used.

TO CONTINUE pest control and disease prevention.

TO GROOM plants by removing discolored leaves and faded flowers. The long bloom stalks on regals

and scenteds should be cut away with a sharp blade.

TO TAKE cuttings from zonals and ivy-leaf types. Each cutting should have a healthy growing tip.

TO PROTECT tender plants from sun if temperatures are high; move to a sheltered spot or create overhead shade.

TO CONTINUE to rotate pots on a regular basis in order to keep plants well shaped.

IRIS

by Iris Society

NOW IS THE TIME

TO SPADE and work humus into the soil to revitalize before planting rhizomes.

TO FEED plants left in the ground with a high nitrogen fertilizer - this one time only.

TO DIVIDE and replant tall bearded iris, taking only the new rhizomes attached to the outer edges of the mother clump. Dust ends of cut rhizomes with soil sulphur.

TO KEEP iris beds clean and free of old fans and weeds.

TO WATCH for aphids; use a light insecticide or a systemic.

TO CUT off spuria iris foliage, but do not dig until September.

ORCHIDS

by Charles Fouquette

NOW IS THE TIME

TO WATCH for infestations of scale and spider mites. Treat accordingly. This time of year, when the humidity is low and the weather warm, there is a possibility of continuous hatches of insects.

TO CONTINUE spreading snail and slug bait.

TO SPRAY or humidify on hot dry days. Shield plants from drying winds and drafts.

TO GROW Cymbidiums with plenty of light (start with about 50% shade. Water generously.

TO KEEP Cypripediums and Paphiopedilums moist, but not wet. Repot after flowering. Use a medium coarse mix (with some finer) for potting.

TO GIVE Oncidiums plenty of air movement. Keep roots moist, not wet. Allow to dry out a bit, but keep humidity at the leaves and bulbs. The potting mix for these plants should be like the Paph-Mix but with less coarse matter because the roots are often finer.

TO PLANT offshoots (Keikis) of Dendrobiums, Phalaenopsis, Vanda, Ascocendas, etc. when roots are two inches long.

TO HAVE Equitant Oncidiums and Mute-ear Oncidiums dry by nightfall.

TO CHECK new seedling and community pots. Do not let them dry out or get sunburn. Do not let dry air desiccate the small plants. Use an anti-desiccant spray; it helps to keep moisture in the plants.

TO CHECK all your mixes for good drainage. When repotting see if they are breaking down and deteriorating. In all summer watering, drainage is important. Water is expensive but so are roots.

ROSES

by Brian Donn

NOW IS THE TIME

TO CONTINUE watering regularly, especially in hot dry spells. Water twice a week to keep best quality blooms. Do it early in the day so the foliage is dry before night.

TO CONTINUE feeding a well-balanced plant food every 3 to 4 weeks.

TO TREAT plants that have pale leaves with dark veins (chlorosis) with chelated iron.

TO CHECK for mites and spray as needed with Maverick or Orthene.

TO BE SURE to water 12 to 24 hours before spraying. Use an efficient sprayer and thoroughly wet underside of leaves as well as tops.

TO MULCH with steer manure to conserve water.

TO FEED generously in late August including Epsom Salt - the roses will be gorgeous.

GREEN THUMB

NOW IS THE TIME

TO PLANT and divide Shasta daisies.

TO PINCH back chrysanthemums once again.

TO PLANT for fall colors - calendulas, stock, cornflowers, snapdragons, zinnias.

TO MOVE belladonna lilies after they have bloomed.

TO FEED bird-of-paradise with cottonseed meal. Soil sulphur may be applied to base of plants. Need excellent drainage and acid soil.

TO WATCH for and control pests and diseases - mildew, spider mites, thrips, whitefly. Blast with water or use chemical sprays or drenches.

TO PREPARE the ground in preparation for fall seeding of all crops - vegetables as well as flowers. □

Computerization of Page Layouts by:

R. Barry Lewis
Computer System Analyst
619/460-2136

WALTER ANDERSEN NURSERY

by PAUL DeMARTINI

WALTER ANDERSEN NURSERY HAS been dedicated to the gardening enjoyment of San Diego gardeners for nearly 65 years. A haven for both the connoisseur and the weekend gardener, they have offered an unsurpassed selection from rare to the most popularized plant material.

Walter Andersen Sr. had his first acquaintance with soil on the family farm in Nebraska. A relative invited him to come to California and assist him with his business. Chris Westergard ran a floral business in the growing community of Mission Hills. He sold cut flowers and potted plants that were grown in greenhouses on the premises. It was here that Walter Andersen had his introduction to horticulture. He started to take on landscape work and got the idea of incorporating a retail nursery into his operation. He had a vision of a nursery that would emphasize quality and selection. He started his first nursery in 1928 on the corner of Juan and Taylor streets in Old Town. To this day there are some specimen California peppers on the site. During that era it was customary for a retail nursery to offer design and landscape services.

During the 30's, in spite of the depression, Point Loma was entering a period of steady growth and development. Walter Andersen's nursery and landscape business prospered so much so that by 1940 he had moved twice to expand capacity. During this time the nursery was developing a distinctive profile as other nurseries would refer customers when they were unable to find a desired plant.

The post WWII era was one of increasing prosperity and visibility in the San Diego community for the nursery. Walter Andersen landscaped such projects as the Kona Kai Club, NAASCO ship building and the Naval Training Center. By 1965 the nursery made its move to the current site at Enterprise and Pacific Coast Highway. The two acre site and the 12,000 sq. ft. structure were necessary to accommodate the expanding retail trade. By 1974, Walter Andersen reluctantly withdrew from landscaping and focused on the retail nursery. Walter Andersen passed on the responsibilities of the business to his son Walter Andersen Jr. who had been contributing to the firm's operations since the early 1960's. Under his leadership, the nursery has continued to prosper and enrich the garden community of San Diego.

As the visitor approaches the nursery they will note the grove of queen palms. The palms reflect Walter Andersen's philosophy that the local gardeners should take advantage of San Diego's gentle subtropical

climate and the remarkable palette of exotics that can be grown here. There is a generous selection of palms encompassing Raphias, Chamaedoreas, Kentias, pygmy date, sago, and others.

From the palm collection there is a subtle transition into the delicate realm of the fern. Several kinds of tree fern will be found here including Hawaiian, New Zealand, Australian and Tasmanian. These are complemented by an intriguing selection of terrestrial fern. No discussion of ferns would be complete without mentioning the extensive collection of staghorn ferns that loom over the azalea and camellia area.

The summer season is highlighted by an attractive display of plumeria. The sweet fragrance of the plumeria and the frangipani will distract the viewer's attention. Be sure to look for the yellow oleander (*Thevetia thevetiodes*) that is covered with magnificent yellow blooms during the warm months.

Orchid enthusiasts will find many unusual and rare varieties in the dramatic display. Because of the variety of species there are orchid available throughout the year.

For those who have been searching for just the right camellia or azalea, your search will be richly rewarded at Walter Andersen. Take time to find the more novel offerings such as the espaliered camellias or the azaleas trimmed into a patio tree. The best time to view is between November and April.

To the left of the front entry is a section devoted to cacti and succulents. In addition, as herbs have become increasingly popular, there is an extensive collection. Water gardeners will take pleasure in the selection of aquatic plantings as well as supplies and preformed ponds. Brief mention should be made of the nice collection of bamboos, the section devoted to California natives and Mediterranean plants, a section devoted to grasses, and an excellent offering of citrus.

An accurate description of Walter Andersen Nursery would be incomplete without mention the staff. Some staff members have been assisting gardeners with the finer points of pest control, fertilizing practice, and plant choice for over 25 years. Another expression of their commitment to service is the free education classes that are offered every Saturday. Samples of some recent classes include: dividing cymbidium orchids, setting up a water garden, moss basket and hanging plants and bonsai culture.

Walter Andersen's is a nursery that embraces the many and varied pursuits of the San Diego gardening community. When you come to the nursery make sure that time will permit you to savor the many delights. It should be mentioned that Walter Andersen is now spanning three generations with the presence of Kenneth Andersen on the staff. □

PAUL DeMARTINI owns a landscape design business in the San Diego Area.

SAN DIEGO COUNTY ORCHID SOCIETY

NOW is the time to join! Learn how easy and fun it is to grow orchids. Meet the experts through society activities including lectures, tours, open houses, and classes.

The society meets the first Tuesday of every month at Casa del Prado in Balboa Park. Cultural classes start at 6:30 p.m. in the library, followed by the regular meeting at 7:30 p.m. in room 101. Refreshments, orchid display, and an orchid raffle follow the meeting.

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STRAWBERRIES: THE BERRY BEST

by BARBARA S. JONES

MANY SOUTHERN CALIFORNIANS are finding that their life styles are changing. They are living in homes that have limited garden space, a patio or deck, but they still want to garden. Container gardening is becoming increasingly popular. Although strawberries usually are considered an open ground plant, they do very well in containers. In fact, I have seen strawberries win the blue ribbon in the potted plant class in two flower shows. Once a gorgeous plant with luscious ripe berries won in a hanging basket class. It is a pretty plant.

The classic picture of container grown strawberries is a strawberry barrel with a beautiful green plant loaded with gorgeous berries growing-out of each planting hole on the sides of the large ceramic "barrel." They may grow this way in other places, but in many parts of San Diego County the imagined barrel is usually better than the actual barrel. (My barrel was more picturesque when I used it for succulents.) Two or three strawberry plants can be grown very successfully in a 5 gallon pot. The pot should be filled with a well-drained potting mix. Check to see that it has been steam sterilized. Do not use garden soil that may be contaminated with pathogens (agents that are able to cause diseases). Strawberries are very susceptible to soil-borne diseases.

Local nurseries can recommend the strawberry variety best suited to your growing conditions. The sweetness of the fruit is not determined by the variety, but by the amount of sun and the number of leaves on the plant. The sugars are manufactured by the leaves, so the more leaves the more sugar and the less fruit the more sugar each one gets. Strawberries need sunlight most of the day - a minimum of 6 hours of direct sunlight.

The time of year when strawberries are planted effects the plants' productivity. Young plants need time to grow large before they bloom and set fruit. In an experiment conducted by Vincent Lazaneo, U.C. Cooperative Extension Farm Advisor, Sequoia strawberries planted in July and August were more productive the following spring than those planted in the fall or early spring.

Strawberries grow well in sandy soil in the open ground if humus is added. Good drainage is important. Plants are usually planted on "hills" or on slightly raised beds. Most old-timer San Diegans "swear by" a winter application of a well decomposed steer manure. This feeds and adds humus. Because most animal manures contain significant amounts of salt, it should only be applied and turned under at least two months before planting. The plants need to be fed twice a year, when growth begins and after the first crop, with a high nitrogen plant food. It is a perennial plant, but only produces well for about three years.

Newly planted and developing roots are very sensitive to salts and to drought. The soil should be kept moist - irrigate every 2 or 3 days. San Diego water has a high salt content, but will be satisfactory. Do not use water that has been softened or treated. The winter rains will leach the salt from the soil, but if the drainage is poor or water builds-up in the pot, root rot can develop.

To produce strong mother plants, the runners should be removed throughout the summer. Mature leaves will turn reddish and begin to die back in the winter, about December. Cut these leaves off just above the crown. (All dead vegetation should be removed to prevent diseases and insect infestations.) When the weather warms, the flowers will bloom. These will be followed by fruit. Because of the variation of growing conditions throughout the County, it would be impossible to predict the times. Most garden strawberries have been developed from *Fragaria chiloensis* var. ananassa. It is a herbaceous plant, a member of *Rosaceae*, the Rose family. (The botanic term herb describes a plant that does not have a woody stem or root structure.) The plant is native to the Americas from Alaska to Patagonia. They do well in San Diego County and are an important commercial plant. They are low in calories, have more vitamin C than citrus fruit, and will add significant amounts of Vitamin A, calcium, phosphorus, and potassium to your diet. □

BARBARA S. JONES uses her degree in Botany to help others garden.

Plant strawberries in July and August

MAKING FOG

by CAROL GREENTREE

A WORLD EXPO is a festival of sights, ideas and experiences. It is a sort of coming-out party for culture shaping new inventions. Many technical and recreational advances that dominate our lives today were first seen as novelties at forward-facing international expositions. The Crystal Palace glasshouse was the crown jewel of the first world fair in London in 1851 and the Eiffel Tower was presented at the celebrated Paris Exposition of 1889. (Along with Edison's phonograph.) The Ferris wheel was introduced at Chicago's Columbian Exposition in 1893 and television made its debut at Chicago's Century of Progress Expo in 1933. The steam engine, the telephone, and lasers were all highlights of the world fairs of their eras.

One of the novelties that delighted Expo '92 fairgoers was fog. Fog making devices may change our California lives in unforeseeable — yet significant — ways, but at last year's Expo, fog pleased summer crowds because it was *cool*! Fog is a nonaddictive, mood-altering natural substance that helped make Seville's Expo a nice place to visit in the heat of July and August. In fact, in Valencia, California, man-made fog already makes Magic Mountain a nicer place to visit during hot weather; its cooling effect helps prevent fainting and heat distress in outdoor ticket lines.

Fog serves a similar purpose at the entrance to Tiger River Trail inside San Diego Zoo. There, visitors in queues smile and chat with strangers whenever intermittently-timed mists appear from the jungle-like plantings. The mysterious wisps of fog create an atmosphere that enhances the credibility of the landscaped setting . . . and fog keeps warm-weather guests comfortable at the same time. Because fog is visible, one of its most desirable effects is to cool the mind as well as the body. Expo '92 climate-modification boon has already proved itself at home in San Diego.

Fog, like the microchip and the transistor, owes its success to miniaturization. Recently patented nozzles can now fragment water droplets into tiny particles, about one tenth the size of the dot in this i. These microparticles are so fine that they remain suspended in the air rather than fall damply to the ground. The smallness of the droplets dramatically speeds their evaporation, which in turn rapidly cools nearby air. The physics of this process makes fog an ideal climate-modification medium for a warm dry region — as the floriculture industry has understood for generations. That's why California's commercial greenhouses have hugged the coast for so many years.

Fog technology developer Tom Mee, a Southern California cloud physics specialist formerly associated with the Cornell Aeronautical Laboratory, states that fog systems have found a surprisingly diverse range of applications, from fun parks, laser shows and discos to manufacturing to plant science.

Until last decade growers were dependent on mere mist — that is different from fog — to cool and humidify greenhouses. Mist is made up of droplets about five times larger than fog particles. Because the bigger droplets fall out of suspension, wetting plants and soil, certain pathogens can flourish and damage crops. Since fog particles remain in the air as vapor, however, fog systems give their users a significant advantage, by reducing disease potential. Growers of specialty crops report improvements in yield and quality through the use of fog making systems. This reality may change the way some plants are produced in San Diego county.

Fog has another intriguing application that can affect horticulture in our area: freeze-prevention for tender plants. A continuous low blanket of man-made fog can forestall frost damage, replacing old-fashioned smudge-pots. In chilled air fog will not evaporate, but will remain suspended, forming a ground-hugging coverlet that prevents freezing by conserving soil warmth. So in weather extremes, fog has a well-defined place in local agriculture.

The environmental benefit of high pressure foggers is that they use so little water or energy to produce such dramatic results. Fog also has air-cleansing properties, so fog makers are used in industry and construction trades to settle dust, control air pollution and reduce static electricity. Commercial application of fog technology promises us a cleaner atmosphere.

In local landscapes fog has encouraging potential, too. Fog making devices may change the way we live in our high-use outdoor spaces, both public and private, during warm weather. Inland parks, malls, patio restaurants and recreation areas can be made more comfortable by designing them in environmentally responsible new ways. Strategically-placed fogging systems will surely be an important component of future landscape planning.

Fog technology has even found its way into private gardens: Johnny Carson reportedly has his own fog maker in Malibu. Fog atomizers are featured in the poolside landscape of the 1992 New American Home, co-sponsored in Las Vegas by *Popular Science* and the

(Continued on page 125)

THE TAMING OF THE RED APPLE ICEPLANT

by KAY STEWART

I FIRST GOT TO KNOW red apple iceplant *(Aptenia cordifolia)* when I saw it growing as a volunteer in the shady waste areas by the back porch of the old rental where I lived in Mission Hills. This old neighborhood of San Diego overlooks the harbor and Mission Bay. In shady spots, this handsome little succulent volunteers and survives without a bit of irrigation.

So it was with some surprise that I found people irrigating red apple two or three times a week in the summer. Some of these gardens were slopes, some were south-facing, so I expected it would need more water there than in the shade. I wondered how little it really needed.

I also learned about red apple's problems from these gardens. It becomes chlorotic (becomes yellow from lack of chlorophyll) and will then suffer decline. It overgrows adjacent plantings and must be edged frequently. It also shelters innumerable snails, that march out under cover of dark to eat anything that has not already been overwhelmed by the red apple.

About that time, I offered to upgrade the front yard of the rental, and decided to use succulents to replace the weedy lawn that had been grown on the 3 to 1 sloping south-facing bank. My landlord requested red apple be planted, as she admired its rich green color. There was no irrigation system, and so I laid a perforated soaker hose (with the holes facing up) on the slope. The soaker delivers water in a slow, fine mist, just fine for windless morning irrigation. The rooted red apple cuttings were planted in soil amended with a composted low-N fertilizer, gypsum, and composted wood shavings.

The project was planted in November. By March, with biweekly watering, the red apple cuttings had covered the slope. I then reduced the water to weekly, and then to twice-monthly cycles. On Memorial Day I decided to just irrigate it when I saw the foliage starting to wilt. June was (as usual in San Diego) foggy and mid-60° half the time, and it wasn't until July that the leaves showed dimples, so I knew water was needed.

I set out the soaker, and ran it that morning for a half-hour. The soil had become dry and relatively water repellant so the first dose was just enough to soften the crust. I watered that evening for another hour. In the morning I scattered a fertilizer that has 5% nitrogen as ammonium phosphate (an acidic fertilizer) on several chlorotic spots, and irrigated an hour more. I coiled up my soaker, and waited a few days. The plants greened-up nicely and plumped-up. Success!

We had a typical summer that year, with temperatures in the nineties as August came on. About mid-August, I gave the slope another drink, with 2½ hours of irrigation. A week after Labor Day, it received its third irrigation for the summer, and some more spot fertilization. I had no snail problems, and needed to edge the red apple only twice in that time to keep it from overtaking adjacent plantings.

How much water actually was applied, you may wonder (as did I). I have guessed that the 30′ long soaker hose puts out about 2 gallons per minute, or 120 gallons per hour; times 2½ hours; times three occasions; equals 900 gallons of water. This was dispersed over an area of about 450 square feet, which equals 2 gallons per square foot, or 3.2" of precipitation. In inland areas, I'm sure that more water would have been needed, perhaps 50% more (=4.8"), delivered every third week.

It is a bit hard to estimate the water use of my neighbors, but many slope irrigation systems deliver from 0.6" to 0.9" per hour. With three times weekly irrigation of 15 minutes each, times 16 weeks, from 7.2" to 10.8" of precipitation would have been delivered between Memorial Day and the end of summer. The amount of fertilizer needed to counter the loss of nitrogen (and alkaline conditions that encourage chlorosis in red apple) are certainly aggravated by excess Colorado River water. The rapid growth of the iceplant would require more frequent cutting, and snails would proliferate in a very moist, warm environment.

I suggest that people experiment with reducing irrigation. If there are trees planted within the ground cover, I suggest bubblers on a different valve for individual trees to give them the water they need. Alternatively, use plants that require less summer water, such as large succulents, or Mediterranean-adapted plants from different parts of the world. My little garden had well-established common myrtle, aloes, Victorian box, and jade plants. They did just fine on the infrequent water schedule. (New plantings would have needed some supplemental water through the first summer, I'm sure.)

By trying different water practices, observing results, and making adjustments, I believe it is possible to reduce water, fertilizer, pesticides, pruning, and greens waste in our landscapes. I am fiddling around with *Sedum confusum* and ivy geranium now. I'll let you know if I learn anything useful. If **you** experiment, please share your results. We all can benefit from each other's trials and errors. □

KAY STEWART is a landscape architect and previously assisted with plant research for the US Forest Service.

Book Reviews

FLOWERS, BUTTERFLIES AND INSECTS, ALL 154 ENGRAVINGS FROM "ERUCARUM ORTUS."
Merian, Maria Sybilla
Mineola, N.Y., Dover Publications, 1991, 150 pages, 154 b&w illust., 8½" x 11", softcover, $10.95.

At first sight this appears to a picture book, and indeed the text is minimal, but a closer examination shows such careful dedication and meticulous detail that the artist's scientific ability, experience and qualifications are apparent. Maria Sibylla Merian was born in Frankfurt in 1647. She was well educated and trained as a painter and engraver, and she became an entomologist. She is still better known in Europe than in America.

In 1679 she published a collection of 50 engravings with a commentary. The second and third volumes appeared in 1683 and 1717, and the work was translated into Latin, French and Dutch. These volumes were best-sellers in seventeenth century Europe. That they were published at a time when there were very few women prominent in the arts and sciences is remarkable. These illustrations are necessarily reproduced in black and white, but they have an astonishing beauty and vibrancy and Dover Publications is to be commended for granting a limited waiver of restriction so that these designs can be freely used for graphics and crafts.

Reviewed By Elsie M. Topham

GROWING BEAUTIFUL HOUSEPLANTS, An Illustrated Guide to the Selection and Care of More than 1,000 Varieties
Herwig, Bob
New York, Facts On File, 1992, 379 pages, over 1,000 color photos, 8¾" x 11½", hardcover, $45.00

One of the joys of living in Southern California is to realize that we can grow in our gardens or on our balconies many plants which must remain houseplants in other parts of the world. One of the joys of this book is to realize how many plants may be brought inside.

Ron Herwig is an internationally recognized horticulturist from the Netherlands where the populace take their houseplants seriously. He has done an excellent job in presenting all the information needed to successfully grow these plants indoors paying particular attention to the growing requirements of the individual varieties including: light, location, temperature, humidity, soil, and nourishment. Plant description, color photo, instructions for care and propagation accompany growing requirements to provide a clear and succinct guide for each plant variety.

You need not be a houseplant aficionado to enjoy this book. While I am an outside gardener for the most part, I recognized many of the plants and have several on my patio--this book opened my eyes to numerous others which will thrive inside or outside in this area. The humidity requirements of some enticing species let me know I will not even attempt them...you may be better suited to this challenge.

The photos are beautiful, enticing you to fill your home with examples of so many lovely plants. A few photos disappoint or might seem to mislead, when the attempt to focus on one characteristic of the plant loses the overall impression of the variety as with *Dracaena draco*. This is, however, a minor flaw. All varieties are available in the trade but some may have to be special ordered.

Reviewed by Lucy Warren

THE COMPLETE BOOK OF PLANT PROPAGATION
Clarke, Graham and Alen Toogood
London, Ward Lock, U. S. Distributor: Sterling Publishing, New York, 1992, 256 pages, 32 color photos, 100 b/w illustrations, 7½" x 9¾", softcover, $17.95

If you are interested in improving and expanding your techniques for plant propagation this book will help. Although written primarily for gardeners in temperate climates it has much to offer Southern Californians.

The chapter on the history of plant propagation includes illustrations of Victorian propagating cases with bottom heat, the Bell Glass and the Fern Case. The chapter on vegetative propagation of bulbs and the one on seed collection (which includes a table of vegetable seed viability) are especially well presented. Other chapters cover the many propagation methods with many illustrations.

The second half of the book lists all common plants and some uncommon ones, with method of propagation, time of year to carry it out and other conditions that may apply. These plants are grouped by hardy ornamental and fruiting, tender ornamental and fruiting and tender vegetable and culinary herbs.

Reviewed by R. Cox

THE LOW-WATER FLOWER GARDENER
Johnson, Eric A. and Scott Millard
Tucson, Ironwood Press, 1993, 144 pages, 125 color photos, 40 b/w illustrations, 8¼" x 10⅞", softcover, $14.95

In this book, intended for those who want colorful flowers in their garden without using much water, the authors recommend grouping plants by water use. Their plan encourages you to retain a few favorite high water use plants in a small restricted zone, then dividing the major area between moderate and low water use zones.

After the opening sections on gardening in the arid West and creating the low water use garden, a listing of 270 colorful unthirsty perennials, ground covers, shrubs and grasses, including 125 color photos, comprises the bulk of the book. Each listing includes origin, bloom season, growing habits, recommended species and information on planting and care. Many of the photos show combinations or grouping of plants that will provide ideas for garden projects.

Reviewed by R. Cox

THE GARDEN DIY EXPERT
Hessayon, Dr. D. G.
Waltham Cross, England, pbi Publications, 1993, 128 pages, 67 color photos, 150 color illustrations, 7¼" x 9¼", softcover, $9.95

This is the eleventh book in the EXPERT series and one you can't do without if you are planning a garden or dreaming of landscaping a new home. This book would be a valuable help for your do-it-yourself (DIY) projects.

Several types of walks, gates and fences are displayed with detailed photos and drawings. It's a complete guide to your non-living features, from birdhouses to pools, gazebos, sandboxes and much, much more. This is a mighty important part of your toolbox, whether it contains hammer or hoe.

Reviewed by Jo Rathman

ILLUSTRATED ENCYCLOPEDIA OF ROSES
Moody, Mary and Peter Harkness, editors
Portland, Oregon, Timber Press, Inc., 1992, 304 pages, 20 b/w illustrations, 1000 color illustrations, 9½" x 12½", hardcover, $39.95

For the rose lover always interested in beautiful rose photographs this will prove most enjoyable. Simple drawings of planting, propagating and pruning and some coverage of all aspects of basic rose cultivation are included.

Botanical information including parentage, flowering times, synonyms and origin are sure to encourage those interested to search for additional specialized information, such as the names of hybridizers responsible for our modern roses.

Review by Marianne D. Truby

Video Reviews

THE COMPLETE INTRODUCTION TO DROUGHT TOLERANT GARDENING WITH PERENNIAL FLOWERING SHRUBS
Lashly, James
Organic Television Workshop, P.O.Box 964, Ojai, CA 93024, 1993, 60 minutes, $25.65

For the gardener who wants to be aware of the latest, the most current trends in gardening, this item qualifies twice. First, it is a video; very much the newest way to present information. It is a visual guide, the perfect "how-to" demonstration. Secondly, the topic is drought tolerant landscaping, a subject whose time is NOW! Finally, the material is geared perfectly for our Southern California climate.

The tape does provide a serious discussion of planning, planting and installation of drip irrigation; but the producers have indulged in some humorous moments. Perhaps they intend to make the viewer feel comfortable and competent to go ahead and create a drought tolerant garden.

Part Two is a visual catalog of 54 perennial shrubs, all drought tolerant plants. All have been photographed in full color in their general shape and at close range. The viewer can get acquainted with each. Every one has a proper label. Regretfully, there is no information about time of bloom or height. Once in a while a hand in the picture provides a clue about scale. It is suggested that you view Part Two without sound; the background music is quite repetitive.

The package includes a printed Index to the catalog of plants so one can fast-forward to find a specific one easily. Also, included is a card illustrating the drip irrigation components described in the video.

A video presentation has several obvious features that no book can provide. You can see actual work in progress and the final result can be viewed from all angles.

Reviewed by Helen & John Gagliardi

Drama in the Garden
Travel/Garden
New book!
by Dorothy Loa McFadden
LITTLE OWL PRESS
Dorothy Loa McFadden, Publisher
2404 Loring Street, Box 288FS
San Diego, California
92109
Extraordinary Stories of the Creators of Twelve Unique Old Gardens in Seven Countries of Europe. Visitors' guides, with 23 color and many black & white photos and drawings. $13.95

FALLBROOK GARDEN CLUB

THE BEAUTY OF CALIFORNIA is readily available to the 247 members of the Fallbrook Garden Club. Located in the north inland area of San Diego County, the inspiring surroundings encourage most members to give garden club activities the attention and support they deserve. The president and the club's members enthusiastically prepare for the annual Fallbrook Garden Club flower show held in late Spring. The show is their biggest project of the year. They are proud of their record of winning a national First Place Award for Flower Shows in 1982, 1985, 1986, 1991.

Projects designed to reach out to their community receive constant attention. The club supplies the local library with a fresh plant or floral arrangement each week, and gives birthday flowers to the patients of the local convalescent hospital throughout the year. On Memorial Day they provide flowers for more than twenty-five graves. They help financially and with volunteer work on the Sensorial Trail at the Wild Animal Park. They developed an Audubon approved checklist of 185 birds seen in the Fallbrook area and a guide to where they are found. (It is available to the public for $1.00.) These activities are in addition to CGCI projects. They award a scholarship to a graduating senior from Fallbrook High School who will major in earth sciences in college.

Club members actively contribute to local community beautification efforts. They help with planting in the local Live Oak Park where herbs, native plants, and other educational gardens are being cultivated by the rangers. On Arbor Day the club plants trees at schools or other civic locations. The club annually awards the "Fallbrook Beautiful Plaque" to local businesses who attractively landscape their properties with emphasis on drought resistant plantings.

The club considers their annual Harvest Plant and Bake Sale to be their largest fund raising activity. It is held in late October or early November.

One of the founding members of CGCI, Fallbrook Garden Club met for the first time on March 26, 1931. The dues were five cents a month. During the Depression and war years, the club struggled through difficult times. Meetings are held on the last Thursday of the month at the Fallbrook Presbyterian Church.

Susan Fox

AMERICAN IVY SCOCIETY

ONE OF THE NEWER SOCIETIES is the San Diego Chapter of the American Ivy Society. In 1989, Frances and Bob Rynearson, with the assistance of the American Ivy Society, initiated the plans for a National Topiary Conference. It was held in San Diego in May 1991. At the planning sessions for the conference a group of enthusiasts decided to form the San Diego Chapter of the American Ivy Society.

The society immediately responded to the city's request for proposals for a park honoring the late Ted Geisel (Dr.Seuss). One of the many plans received by the city, their plan was featured in an article in *The San Diego Union-Tribune* in March. The Ivy Society suggested constructing ivy topiaries representing Dr. Seuss characters. The idea received a positive response from the city arts council.

The society also initiated an ivy reference collection in cooperation with the San Diego Zoo. It is the only society reference collection in Southern California. This small dedicated group meets in the Floral Association Library quarterly on the first Monday of February, May, August, and November. Every meeting includes growing and identifying information and sharing of ivy cuttings.

Susan Fox

PLANT SOCIETIES

by SUSAN FOX

DURING ANY WEEKDAY in San Diego there are meetings of individual societies where gardeners share their interest with newcomers and long standing members. Learning about the featured plant in depth is the specialty of the society. The program may consist of a slide lecture or a planting demonstration. There might be a plant exchange. There is always an experienced grower among the members from whom to get advice.

Where can you find avid San Diego gardeners on a Saturday or Sunday afternoon? Often they are found in room 101 of Casa del Prado in Balboa Park attending a show featuring their favorite plant. Hundreds of people attend these free educational shows presented by the plant societies. □

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1993
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June 7, October 19
5:45 p.m.
Casa del Prado, Room 101
Balboa Park, San Diego

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Mrs. Robert Schemmel 451-3482
18193 Calle Estepona
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3rd Thu - 1:30 pm, Joslyn Senior Center, Rancho Bernardo

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Salton City CA 92274-2109

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Valley Center CA 92082-0802
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San Diego CA 92103-4486
3rd Tue - 1:30 pm, L.J.Lutheran Church

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15614 Hawley Court
El Cajon CA 92021-2534
3rd Mon - 7:30 pm, Lakeside Rec. Center

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Seal Beach CA 90740-3446
MIRACOSTA HORTICULTURE CLUB
Pres: Mrs. Raymond Amos 941-4106
508 Hutchison Street
Vista, CA 92084-1408
3rd Sat - 1:00 pm, Miracosta Community College, Horticulture Building #T8
PACIFIC BEACH GARDEN CLUB
Pres: Mrs. Dale S. Munda 272-9727
1544 Oliver Avenue
San Diego CA 92109-5321
2nd Mon - 1:00 pm, Recreation Center
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Dir: Mrs. L.L. Cottingham (Nancy) 222-4616
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San Diego CA 92107-4257
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851 Cordova Street
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Poway CA 92064-5259
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2nd Tue - 7:30 pm, Garden Club
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San Diego CA 92120-3713
4th Thu - 1:00 pm, United Methodist Church
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10411 San Carlos Drive
Spring Valley CA 91978-1034

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8588 Prestwick Drive
La Jolla CA 92037-2048
4th Wed - 10:00 am, Casa del Prado
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San Diego CA 92123-3056
OHARA SCHOOL OF IKEBANA
LA JOLLA CHAPTER
Pres: Mrs. Michiko Yoshida 673-8313
14154 Capewood Lane
San Diego CA 92128-4209
2nd Tues - 10:00 am
OHARA SCHOOL OF IKEBANA
SAN DIEGO CHAPTER
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2936 Havasupai Avenue
San Diego CA 92117-1641
SOGETSU SCHOOL OF IKEBANA
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San Diego CA 92154-2160

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3327 28th Street
San Diego CA 92104-4524
4th Mon - 6:30 pm, Casa del Prado
HEARTLAND AFRICAN VIOLET SOCIETY
Pres: Lois Cornish 427-3966
993 Helix Avenue
Chula Vista CA 91911-2309
3rd Tue - 7:00 pm, Wells Park Ctr,El Cajon
SAN DIEGO DAYTIME
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Pres: Mrs. Toni Baker 582-7516
6475 50th Street
San Diego CA 92120-2709
2nd Mon - 1:00 pm, Christ United Methodist Church

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Pres: Mr. Gerald Bol 209/539-2145
666 Wagnon Road
Sebastopol CA 95472-9546
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Pres: Mrs. Crystal Zook 226-6667
526 San Elijo Street
San Diego CA 92106-3448
2nd Tue - 10:30 am, Home of Members
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910 Fern Street
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Pres: Mrs. T.M. O'Reilly (Thelma) 670-0830
10942 Sunray Place
La Mesa CA 91941-7241
Last Sat - 10:30 am, Home of Members

BONSAI

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Pres: Kora Dalager 222-9835
P. O. Box 40037
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2nd Sun - 1:00 pm, Casa del Prado

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BALBOA PARK
Pres: Mary Siemers 284-2813
4614 Constance Drive
San Diego CA 92115-3108
2nd Tue - 7:30 pm, Casa del Prado
SAN DIEGO BROMELIAD SOCIETY
Pres: Joyce Brehm 277-1030
5080 Dawne Street
San Diego CA 92117-1351
1st Thu - 7:45 pm, Byzantine Catholic Church, Serra Mesa

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PALOMAR CACTUS AND SUCCULENT
SOCIETY
Pres: Eleanore Hewitt 753-3651
P. O. Box 840
Escondido CA 92033-0840
4th Sat - 12:45 pm, Joslyn Sr Ctr, Escondido
SAN DIEGO CACTUS AND
SUCCULENT SOCIETY
Pres: Mr. Joseph Betzler 239-0804
1168 23rd Street
San Diego CA 92102-1918
2nd Sat - 1:30 pm, Casa del Prado

CAMELLIA

SAN DIEGO CAMELLIA SOCIETY
Pres: Mrs. Beth Kalal 435-1989
560 H Avenue
Coronado CA 92118-1624
3rd Wed - 7:30 pm, Casa del Prado

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422 Sunset Boulevard
Toledo OH 43612-2530
SAN DIEGO COUNTY DAHLIA SOCIETY
Pres: Gerald Lohmann 279-5135
6616 Rockglen Avenue
San Diego CA 92111-4108
4th Tue - 7:30 pm, Casa del Prado

EPIPHYLLUM

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Pres: Mrs. Margaret Pethley 484-4189
14426 Calle Neublado
San Diego CA 92129-3811
2nd Wed - 7:30 pm, Casa del Prado

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3rd Thu - 7:30 pm, Casa del Prado

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5942 Alta Mesa Way
San Diego CA 92115-6102
2nd Tue - 7:30 pm, Casa del Prado

HEMEROCALLIS
SOUTHWEST HEMEROCALLIS SOCIETY
Pres: Ms. D. D. Herman-Walker 263-5324
P. O. Box 131286
San Diego CA 92170-1286
1st Sat - 10:00 am, Quail Gardens

HERB
THE HERB SOCIETY OF S. D. COUNTY
Pres:Kathleen Delancey 746-5038
3502 Lomas Serenas Drive
Escondido CA 92020-7907

HOYA
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5217 Cassandra Lane
San Diego CA 92109-1314
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SAN DIEGO/IMPERIAL COUNTIES IRIS SOCIETY
Pres: Mr. Walter McNeel 483-5144
4486 Ute Drive
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SAN DIEGO CHAPTER
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2775 A Street #C
San Diego, CA 92102-1043
1st Mon - Casa del Prado

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SAN DIEGO CHAPTER
Pres: Bertha McKinley 270-9573
4626 Chickasaw Court
San Diego CA 92117-2838
3rd Tue - 7:30 pm, Casa del Prado

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Pres: Dorothy Frisbie 741-0829
P. O. Box 288003
San Diego CA 92128-0991
3rd Mon - 2:00 pm, Home Fed Bank,Rancho Bernardo

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CYMBIDIUM SOCIETY OF AMERICA, INC.
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Pres: Craig Johnson 721-5547
1972 Ivy Road
Oceanside, CA 92054-5677
3rd Wed - 7:30 pm, Carlsbad Woman's Club

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31101 Via Cristal
San Juan Capistrano CA 92675-2915
2nd Fri - 7:30 pm, Vista Senior Center

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Pres: Mr. Robert W. Marlin, Sr. 753-6952
310 Seeman Drive
Encinitas CA 92024-2840
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6500 San Miguel Road
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3rd Tue - 7:00 pm, Bonita Valley Baptist Church

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1233 Hayes Avenue
San Diego CA 92103-2310
3rd Fri - 7:30 pm, Casa del Prado

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EAST COUNTY ROSE SOCIETY
Pres: Sally Long
1663 Fuerte Ranch Road
El Cajon CA 92019-3730
1st Sun - 2:00 pm, Gardens of Members

SAN DIEGO ROSE SOCIETY
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1459 La Jolla Rancho Road
La Jolla CA 92037-7435
3rd Mon - 7:30 pm, Casa del Prado

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2351 Soto Street
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AFFILIATES: To update listing, send changes to: Nancy Cottingham, Affiliates Editor *California Garden*, Casa del Prado, Room 105, Balboa Park, San Diego CA 92101-1619. Call 222-4616. Deadline for Sep-Oct issue: Jul 15, 1993.

Making Fog . . . (Continued)

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CAROL GREENTREE is a freelance garden writer with an interest in Spanish gardens and in landscape history.

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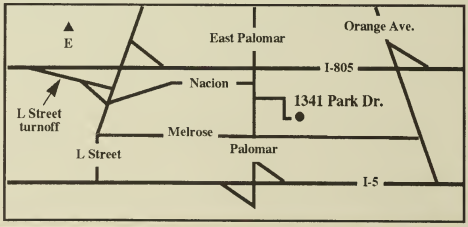

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